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EXAMINER

PHUNG, LUAT

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2464

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PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Response to Arguments

1. On page 8, applicant's representative argues that Mangipudi does not disclose when to submit the request.

Examiner's response:

As a recap of the rejection of claim 1, Mangipudi discloses in the Background of the Invention a well known technique of **scheduling HTTP requests** by placing them in queues (para. 9, lines 12-13), requests coming from clients to request controller 10, the requests then being sent to one of the connected web servers 14 (fig. 1, web servers 1, 2, 3), admitted requests are queued into high, medium, and low priority queues, and the queues are serviced by the request controller 10 based on configured policy such as length of queues, etc. (para. 11), i.e., the request controller 10 determines when to service the requests that are in the queues, or when the requests are submitted to one of the web servers; high priority requests will clearly be sent to a web server to be processed before lower priority requests, and requests at the front of a queue will be sent to a server before those at the end of the queue. Furthermore it is well known in the art that scheduling a task, e.g., "scheduling HTTP requests" in Mangipudi, refers to the timing of performing that task. For example, **the sole definition for "schedule" in the Microsoft Computer Dictionary, Fifth Edition, is a verb meaning "To program a computer to perform a specified action at a specified time and date."** Accordingly scheduling an HTTP request means to submit the request at a specified time and date, i.e., determining when to submit the request. Thus it would have been obvious to one of ordinary skill in the art at the time of

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the invention to implement the request controller and queues as disclosed in Mangipudi's Background of the Invention in combination with scheduling the request to the server based on the claimed criteria as recited above, in order to manage processing of the web requests.

Clearly Mangipudi discloses when to submit the request, as claimed.

2. On page 8, applicant's representative states:

Indeed, the Examiner concedes that Mangipudi does not teach determining when those requests should be submitted to the at least one server.

Examiner's response:

The last office action recites:

"In this embodiment Mangipudi does not expressly teach:

wherein scheduling submission of the request to the at least one server comprises determining when to submit the request to the at least one server."

I.e., Examiner did not concede that Mangipudi does not teach determining when those requests should be submitted to the at least one server; rather, the office action states that Mangipudi does not teach it in one particular embodiment. Mangipudi does indeed disclose that limitation in the Background of the Invention section as articulated in the rejection of claim 1 of the office action.

3. On page 9, applicant's representative argues that Subramanian fails to remedy Mangipudi so as to teach or suggest determining when to submit the request to the at

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least one server based on: (i) a quality-of-service (QoS) class assigned to a client from which the request originated; (ii) a response target associated with the QoS class; and (iii) an estimated response time associated with the at least one server.

Examiner's response:

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

As a recap of the rejection of claim 1, Subramanian from an analogous art discloses **a web-service facilitator enabling web-service requests to be load-balanced to servers (para. 9, lines 8-10), and a scheduler configured to enable the web-service request to be scheduled for future execution (para. 9, lines 17-18),** i.e., determining when to submit the request to the server. Thus it would have been obvious to one of ordinary skill in the art at the time of the invention to implement handling of requests as taught by Subramanian in the system of Mangipudi, specifically scheduling the requests for future execution by the servers, as suggested by Subramanian, using the criteria taught by Mangipudi. The motivation would be to enable such requests to be managed, monitored, and/or tracked so that progress can be determined across the servers **(Subramanian, para. 8).**

4. Regarding claims 18 and 25, on page 9, Applicant's representative further argues that Bender does not teach or suggest any technique which involves withholding

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submission of requests to the server and, on page 10, that Bender does not schedule jobs based on a "response target" associated with a particular QoS class.

Examiner's response:

As shown in the rejection of claims 18 and 25, Mangipudi further discloses categorizing higher end requests to a specific cluster of servers assigned more resources guarantees priority is given to this class over other classes (**para. 24**), routing by class (**para. 26**), and server is selected based on load balancing algorithm defined for the cluster or class assigned to the request (**para. 46**). I.e., in Mangipudi, requests are associated with a class of service, based on which processing is performed.

I.e., Mangipudi schedules jobs based on a "response target" associated with a particular QoS class and withholding submission of requests to the server.

Bender from the same or similar fields of endeavor discloses a server which employs a pre-emptive setting not continuously processing a request, but scheduling them according to an earliest deadline first methodology, by alternately processing the request with the earliest deadline first, followed by that with the next earliest deadline, and so on (**col. 4, lines 52-58; col. 5, lines 27-35**). That is, in Bender, a request is scheduled based on a response target, when it is to be completed. Additionally Chen from an analogous art discloses request scheduling using priority queues, in which a request in priority two queue is processed after a request in priority one is. (**fig. 1A, elements 52, 56; para. 19-21**) Thus it would have been obvious to the person of ordinary skill in the art at the time of the invention to combine the request processing method based on class of service of Mangipudi with the pre-emptive scheduling method

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based on response target of Bender and the priority queues of Chen by determining when to submit requests using priority queues and according to their target times. The motivation for such a combination would have been to ensure proper order of processing requests.

Clearly the combination of Mangipudi, Bender and Chen discloses the claimed limitations of withholding submission of requests to the server and determining when to submit jobs based on a "response target" associated with a particular QoS class.

5. On page 10:

In addition, Applicants, after considering the present Office Action in its entirety, respectfully assert the same deficiency arguments presented in their previous response dated May 5, 2008 (the disclosure of which is incorporated by reference herein) with respect to Veres, Menditto and Lu.

Examiner's response:

Applicant's arguments fail to comply with 37 CFR 1.111(b) because they amount to a general allegation that the claims define a patentable invention without specifically pointing out how the language of the claims patentably distinguishes them from the references.

Specifically, the last office action recites:

"The arguments presented in May 5, 2008 have been timely addressed in the subsequent office action sent May 30, 2008, to which applicants are requested to refer for responses."

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Applicant merely continues repeating the general allegation without specifically rebutting Examiner's Response to Arguments provided in the subsequent office action sent on May 30, 2008.

/Luat Phung/

Examiner, Art Unit 2464